

# **South Carolina**

## **2005 Injury Report**

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## **2005 Injury Deaths**

In 2005, there were 3,142 deaths in South Carolina due to injury. The crude death rate was 73.8 per 100,000 population.

Motor vehicle crashes (MVC) were the leading cause of injury deaths (27%) followed by suicide and unintentional poisoning (16, and 12.5% respectively) (Table 1.1). Unintentional injuries accounted for almost two thirds of causes of injury, and intentional injuries made up almost the other third of the causes.

People in age group 65 years and older had the highest injury death rate followed by age group 35-49 (119.1, 89.1/100,000 respectively) (Figure 1.1). Injury death rate increased sharply at age group 15-24 (80.8/100,000), this may be contributed to the fact that young people start to drive at that age. Table 1.2 shows that MVC are the primary cause of injury death from 0 to 34 years old and ages 50-64. For age group 35-49, unintentional poisoning was the primary cause of injury death, while falls were the leading cause for people 65 years and older.

Black/other males had the highest injury death rate (121.5/100,000) (Figure 1.2). MVC were the primary cause of death for all race-sex. Falls were the 4<sup>th</sup> cause of death among whites (males & females) and it was the 5<sup>th</sup> cause for black/other females and it was not one of the top 5 causes for black/other males (Table 1.3).

Around 75% of intentional causes of injury deaths among black/other (males & females) were due to homicide while among whites (males & females) around 75% and higher of these causes were due to suicide (Figure 1.3). Firearms were used in 69% of homicide-related deaths as the weapon of assault, and were used in 62% of the suicide cases (Table 1.4).

MVC-related deaths were the highest among 15-34 years old black/other males followed by 15-24 years old white males (Figure 1.4). MVC-related deaths decreased with age among males (white & black/other) till age 65 and older where it increased again.

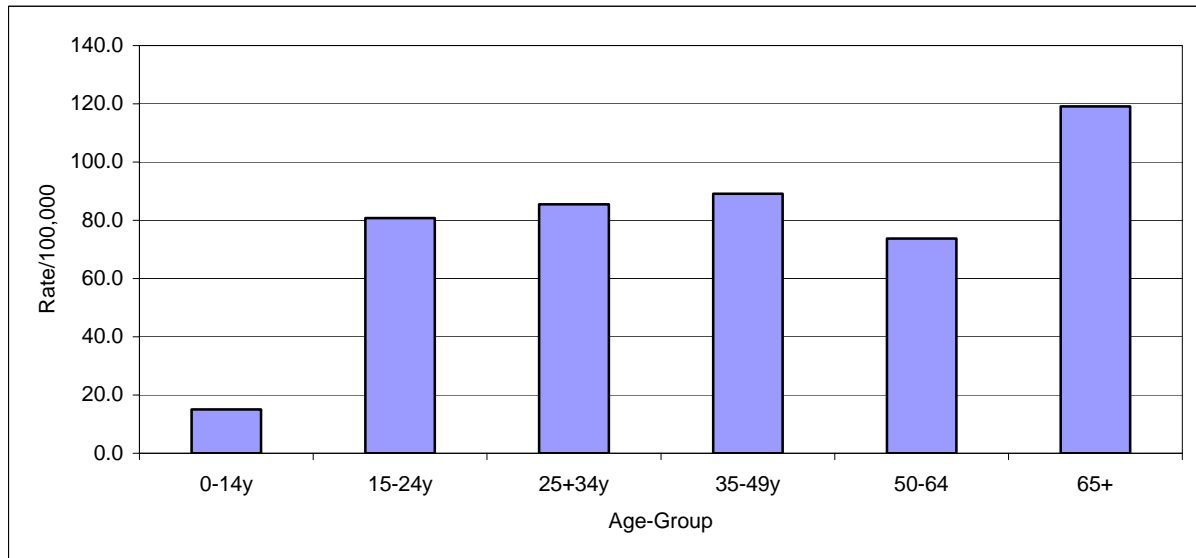
**Table 1.1: Causes of Injury Deaths, SC 2005**

<b>Cause of Injury</b>	<b>Number</b>	<b>Percent</b>	<b>Rate</b>
<b>I. Unintentional</b>	<b>2,254</b>	<b>72.0</b>	<b>53.0</b>
Traffic MVC	848	27.0	19.9
Poisoning	394	12.5	9.3
Fall	207	6.6	4.9
Unspecified	142	4.5	3.3
Suffocation	131	4.2	3.1
Pedestrians	107	3.4	2.5
Motor Cyclists	83	2.6	2.0
Fire/Flame	80	2.6	1.9
Drowning	75	2.4	1.8
Other Transport	42	1.3	1.0
Firearm	34	1.1	0.8
Other Causes	33	1.1	0.8
Natural/Environmental	21	0.7	0.5
Pedal Cyclists	18	0.6	0.4
Struck by/caught	18	0.6	0.4
Machinery	16	0.5	0.4
Burn hot Object	3	0.1	0.1
Cut/Pierce	2	0.1	0.0
<b>II. All Intentional</b>	<b>847</b>	<b>27.0</b>	<b>19.9</b>
Suicide	502	16.0	11.8
Homicide	336	10.7	7.9
Legal Intervention	9	0.3	0.2
<b>III. Undetermined Intent</b>	<b>41</b>	<b>1.3</b>	<b>1.0</b>
<b>Total</b>	<b>3,142</b>	<b>100</b>	<b>73.8</b>

Percent of the total injury Deaths

Rate per 100,000 population

**Figure 1.1: Injury Deaths by Age Groups, SC 2005**

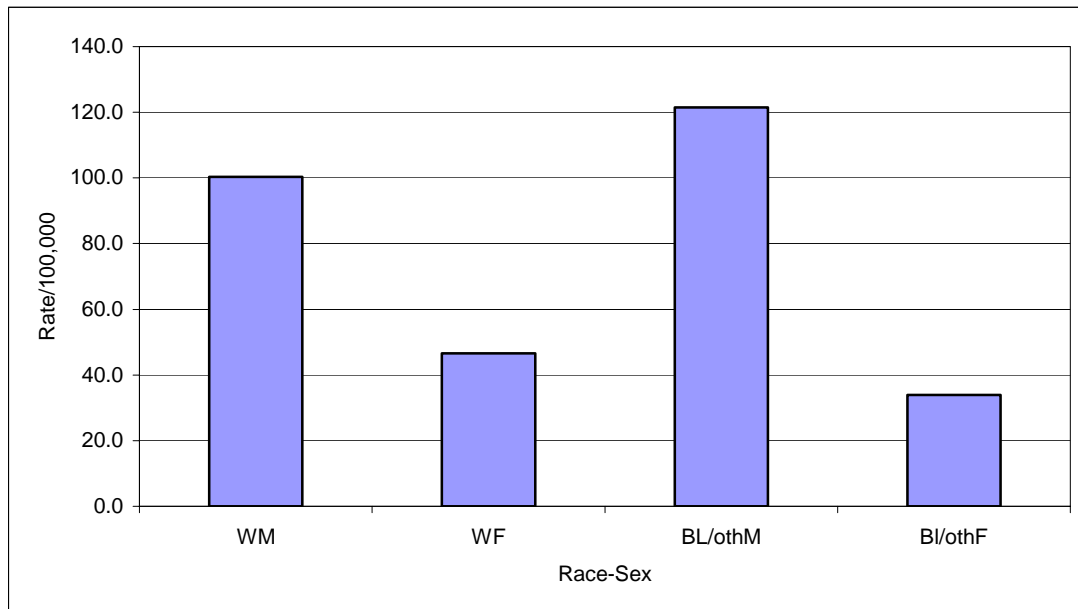


**Table 1.2: Injury Deaths by Race and Sex, SC 2005**

Age Group	Cause of Injury	No.	Rate	Age Group	Cause of Injury	No.	Rate
0-14	MVC	37	4.4	35-49	Poisoning	183	19.7
	Suffocation	28	3.3		MVC	173	18.7
	Fire/Flame	13	1.5		Suicide	171	18.5
15-24	MVC	223	36.6	50-64	MVC	119	15.6
	Homicide	88	14.4		Suicide	111	14.5
	Suicide	70	11.5		Poisoning	104	13.6
24-34	MVC	172	29.8	65+	Fall	161	30.1
	Suicide	85	14.7		MVC	124	23.2
	Homicide	73	12.7		Suffocation	64	12.0

Rate per 100,000 population

**Figure 1.2: Injury Deaths by Age Group, SC 2005**

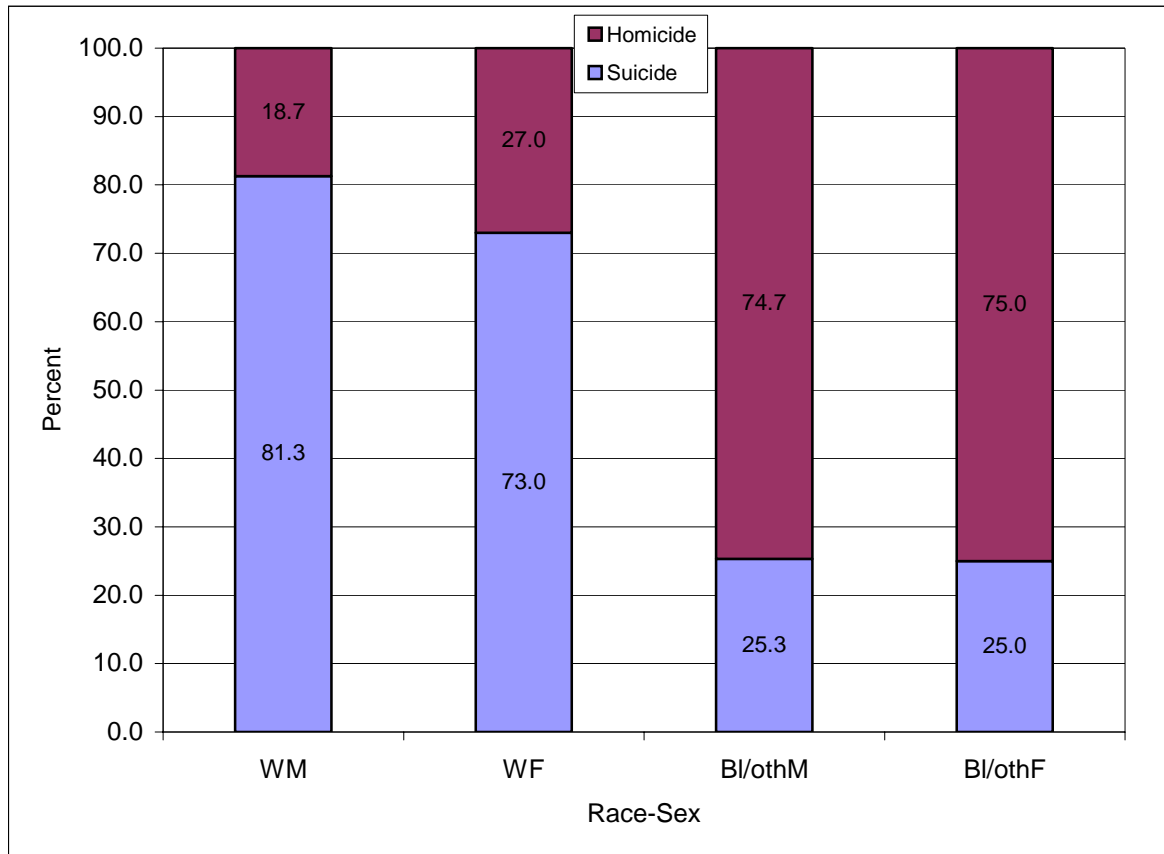


**Table 1.3: Top 5 Causes of Injury Deaths by Race & Sex, SC 2005**

Race & Sex	Cause of Injury	No.	Rate	Race & Sex	Cause of Injury	No.	Rate
White Males	MVC	379	26.1	Black/ other Males	MVC	205	32.8
	Suicide	334	23.0		Homicide	186	29.8
	Poisoning	201	13.9		Suicide	63	10.1
	Fall	87	6.0		Poisoning	51	8.2
	Homicide	77	5.3		Pedestrians	45	7.2
White Females	MVC	188	12.7	Black/ other Females	MVC	75	10.7
	Poisoning	121	8.2		Homicide	39	5.6
	Suicide	92	6.2		Suffocation	22	3.1
	Fall	79	5.3		Poisoning	21	3.0
	Suffocation	38	2.6		Fall	16	2.3

Rate per 100,000 population

**Figure 1.3: Deaths due to Intentional Injuries by Race and Sex, SC 2005**



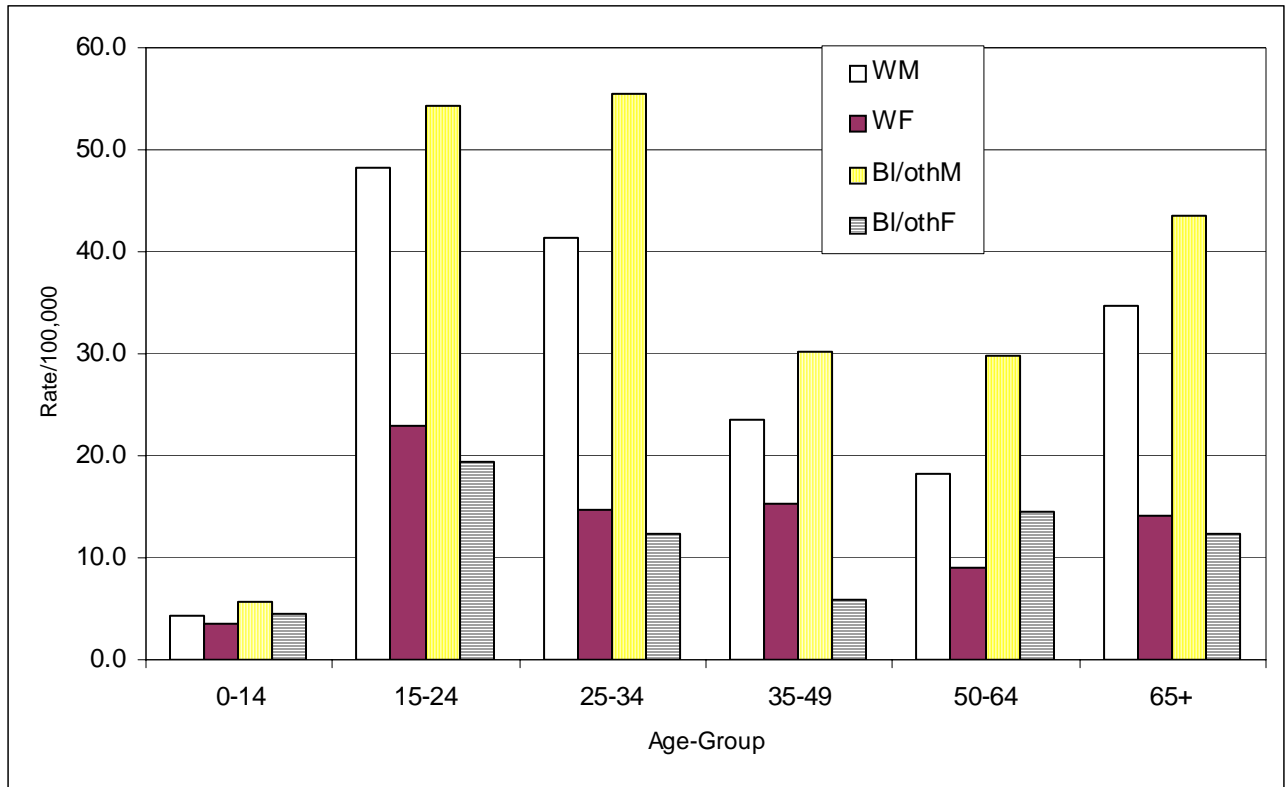
**Table 1.4: Top Causes of Deaths due to Intentional Injuries, SC 2005**

Suicide	No.	%	Homicide	No.	%
Firearm	311	62.0	Firearm	233	69.4
Suffocation	103	20.5	Cut/Pierce	40	11.9
Poisoning	67	13.4	Other Causes	27	8.0
Drowning	7	1.4	Unspecified	23	6.9
Falls	4	0.8	Suffocation	9	2.7

%= Percent of all causes of suicide/or Homicide



**Figure 1.4: Deaths Due to MVC by Race, Sex and Age Group, SC 2005**



## **2005 Injury Hospital Discharge (HD)**

In 2005, there were 23,015 hospital discharges (HD) due to injury in SC, leading to a crude rate of 54.1/10,000 population.

Falls were the leading cause of discharges (41%) followed by MVC (15.6%), (Table 2.1). Intentional injuries accounted for 12.4% of the causes of injury. Sports and recreation contributed 4.1% to the causes of hospitalization.

People 65 years and older had highest discharge rate and it is two and half times that of age group 25-34 (148.4, 60.1/10,000 respectively) (Figure 2.1). Falls, were the leading cause of injury for people 35 years and older, while MVC were the primary cause for age group 15-24 (Table 2.2). Sports & recreation were the primary cause of injury for children 0-14 years old.

White females had the most injury-related HD followed by black/other males (63.2 & 57.8/10,000) (Figure 2.2). Falls were the leading cause of injury among all race-sex groups (except black/other males), and it was most frequent among white females (36.5/10,000) (Table 2.3).

MVC- related discharges rates were the highest among 25-34 years old black/other males (22.2/10,000) (Figure 2.3). For all other race-sex groups the highest MVC injuries occurred in age group 15-24.

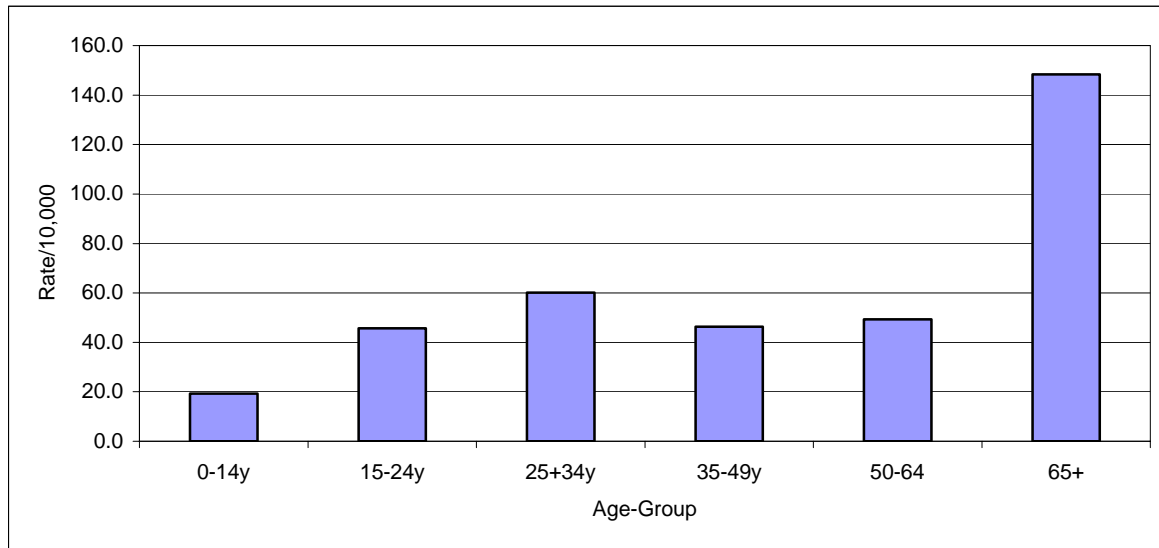
The discharge rate due to falls is the highest among white females (36.5/10,00) (Table 2.4). Falls among white females is 3 times as that among black/other females and twice as that among white males. 84% of the falls resulted in fractures, 6.3% had Intracranial injury excluding those with skull fracture, and 1.5% had Sprains & Strains (Table 2.5).

**Table 2.1: Causes of Injury Hospital Discharges, SC 2005**

Cause of Injury	Number	Percent	Rate
<b>I. Unintentional</b>	<b>20,151</b>	<b>87.6</b>	<b>47.4</b>
Falls	9,433	41.0	22.2
MVC	3,586	15.6	8.4
Poisoning	1,488	6.5	3.5
Natural, Environmental	1,237	5.4	2.9
Sports and Recreation	938	4.1	2.2
Motorcyclist	606	2.6	1.4
Adverse Effects of Therapeutic Drugs	526	2.3	1.2
Struck By/ or Caught in	417	1.8	1.0
Overexertion	336	1.5	0.8
Other Transportation	272	1.2	0.6
Pedestrian	270	1.2	0.6
Piercing or Cutting	238	1.0	0.6
Machinery	200	0.9	0.5
Fire and Flame	170	0.7	0.4
Firearm and Airgun	169	0.7	0.4
Foreign Body	151	0.7	0.4
Other Injury	47	0.2	0.1
Near Suffocation	39	0.2	0.1
Pedal Cyclist	21	0.1	0.0
Near Drowning	9	0.0	0.0
<b>II. All Intentional</b>	<b>2,862</b>	<b>12.4</b>	<b>6.7</b>
Attempted Suicide	1,771	7.7	4.2
Assault	1,079	4.7	2.5
Legal Intervention	12	0.1	0.0
<b>Total</b>	<b>23,015</b>	<b>100.0</b>	<b>54.1</b>

Percent of the total Injury Discharge  
Rate per 10,000 population

**Figure 2.1: Injury Discharge Rates by Age Group, SC 2005**

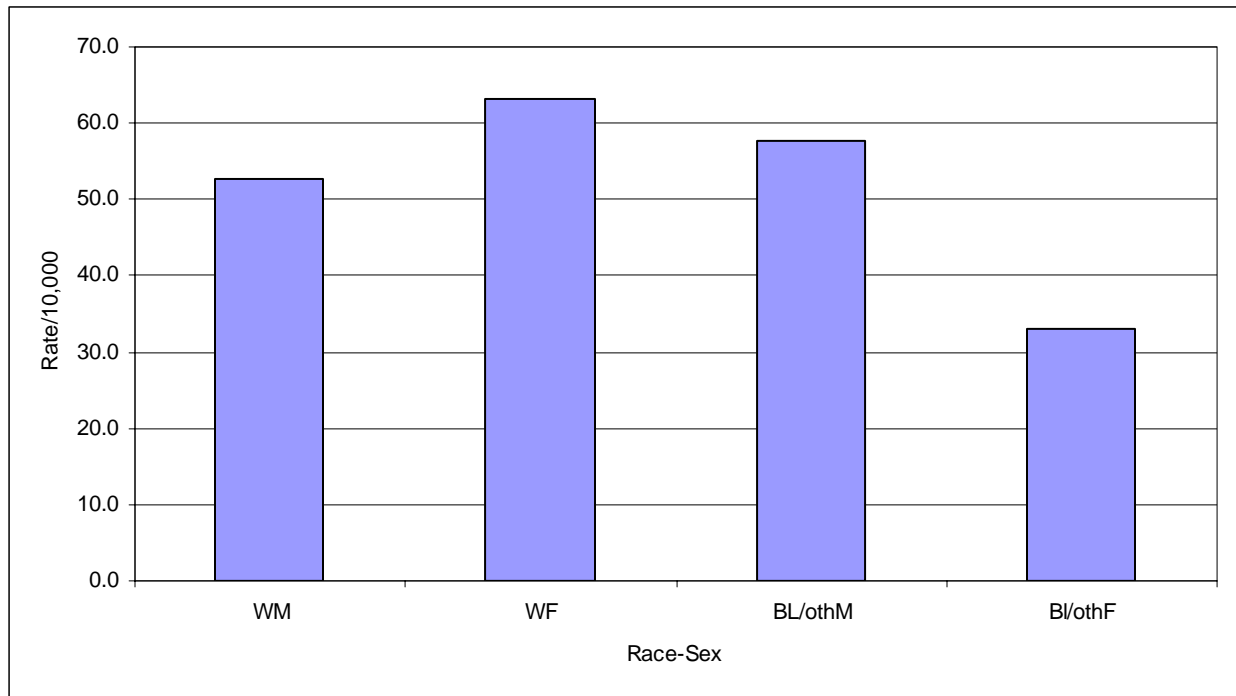


**Table 2.2: Top 5 Causes of Injury Discharge by Age Group, SC 2005**

Age Group	Cause of Injury	No.	Rate	Age Group	Cause of Injury	No.	Rate
0-14	Sports & Recreation	355	4.2	35-49	Falls	866	9.3
	Falls	343	4.1		MVC	787	8.5
	MVC	206	2.4		Attempted Suicide	649	7.0
	Poisoning	147	1.7		Poisoning	427	4.6
	Natural, Environmental	109	1.3		Assault	321	3.5
15-24	MVC	970	15.9	50-64	Falls	1513	19.8
	Attempted Suicide	345	5.7		MVC	538	7.0
	Assault	287	4.7		Poisoning	314	4.1
	Falls	245	4.0		Attempted Suicide	282	3.7
	Sports & Recreation	181	3.0		Natural, Environmental	251	3.3
24-34	Other Unintentional Injury	850	14.7	65+	Falls	6163	115.2
	MVC	688	11.9		MVC	397	7.4
	Attempted Suicide	405	7.0		Natural, Environmental	376	7.0
	Falls	303	5.3		Poisoning	259	4.8
	Assault	275	4.8		Adverse Effects of Therapeutic Drugs	252	4.7

Rate per 10,000 population

**Figure 2.2: Injury Hospital Discharges by Race and Sex, SC 2005**

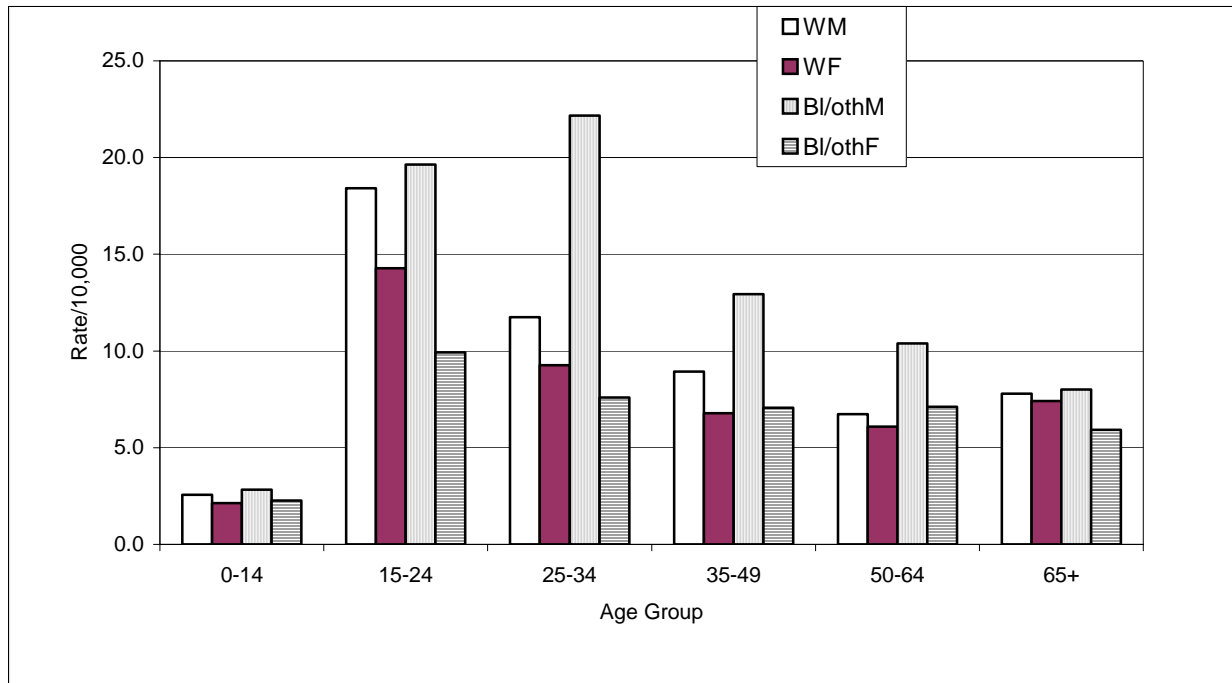


**Table 2.3: Top 5 Causes of Injury Discharges by Race & Sex, SC 2005**

Race & Sex	Cause of Injury	No.	Rate	Race & Sex	Cause of Injury	No.	Rate
White Males	Falls	2,500	17.2	Black/ other Males	MVC	761	12.2
	MVC	1,286	8.9		Falls	677	10.8
	Attempted Suicide	554	3.8		Assault	562	9.0
	Poisoning	486	3.4		Natural, Environmental	228	3.6
	Sports & Recreation	485	3.3		Poisoning	211	3.4
White Females	Falls	5,406	36.5	Black/ other Females	Falls	806	11.5
	MVC	1,063	7.2		MVC	451	6.4
	Attempted Suicide	878	5.9		Attempted Suicide	196	2.8
	Poisoning	603	4.1		Poisoning	179	2.6
	Natural, Environmental	385	2.6		Natural, Environmental	158	2.3

Rate per 10,000 population

**Figure 2.3: MVC-Related Discharges by Race, Sex & Age Group, SC 2005**



**Table 2.4: Falls-Related Discharges by Race-Sex, SC 2005**

Sex-Race	Number	Rate
White M	2,500	17.2
White F	5,406	36.5
Black/other M	677	10.8
Black/other F	806	11.5

Rate per 10,000 population

**Table2.5: Nature of Injuries Due to Falls, SC 2005**

Nature of Injuries Resulted from Falls	Percent
Fractures	84.4
Intracranial injury, exclude those with skull fracture	6.3
Other injuries	4.1
Superficial injuries	1.9
Contusions with intact skin surfaces	1.7
Sprains & Strains	1.5
Open wounds	1.1

Percent of all falls

**Table 2.6: Source of Payments & Charges, Injury Discharges, SC 2005**

Paying Source	Percent
Medicare	43.4
Insurance	32.7
Self Pay	14.1
Medicaid	9.7
<b>Total Charges to all payers: \$1,208,533,017</b>	

Charges are the amount billed to paying sources & not the amount collected

## **2005 Injury Emergency Department (ED) Visits**

In 2005, there were 377,376 Emergency Department (ED) visits due to injury in SC, leading to a crude rate of 886.9/10,000 population.

Falls were the leading cause of ED visits (22.3%) followed by Natural, Environmental Factors (15.6%), and MVC (14.7%) (Table 3.1). Intentional injuries accounted for 5.4% of the causes where assault was the main cause; 5.2% of the injuries were due to sports and recreation.

Young people 15-34 years old had the most injury-related ED visits followed by age group 0-14 (Figure 3.1). Falls were the leading cause of injury for all age groups except people ages 15-34 who had MVC as the leading cause (Table 3.2).

Black/other males had the highest ED visits rate followed by black/other females (1,167.5 & 943.8/10,000) (Figure 3.2). Falls were the leading cause of injury among whites (males & females), while MVC were the leading cause among blacks/other (males & females) (Table 3.3).

The highest MVC-related ED visits rates were among age group 15-24 and it was the most among black/other females followed by black/other males (97.2 & 79.2/10,000 respectively) (Figure 3.3). The ED visits for MVC injuries decreased with advance in age.

ED visits rate due to falls was the highest among white females followed by black/other males (240.6, 172.9/10,000 respectively) (Table 3.4). 28% of the falls resulted in contusions with intact skin surfaces, 23.8% had fractures, 19% had sprains & strains, and 15.7% had open wounds (Table 3.5).

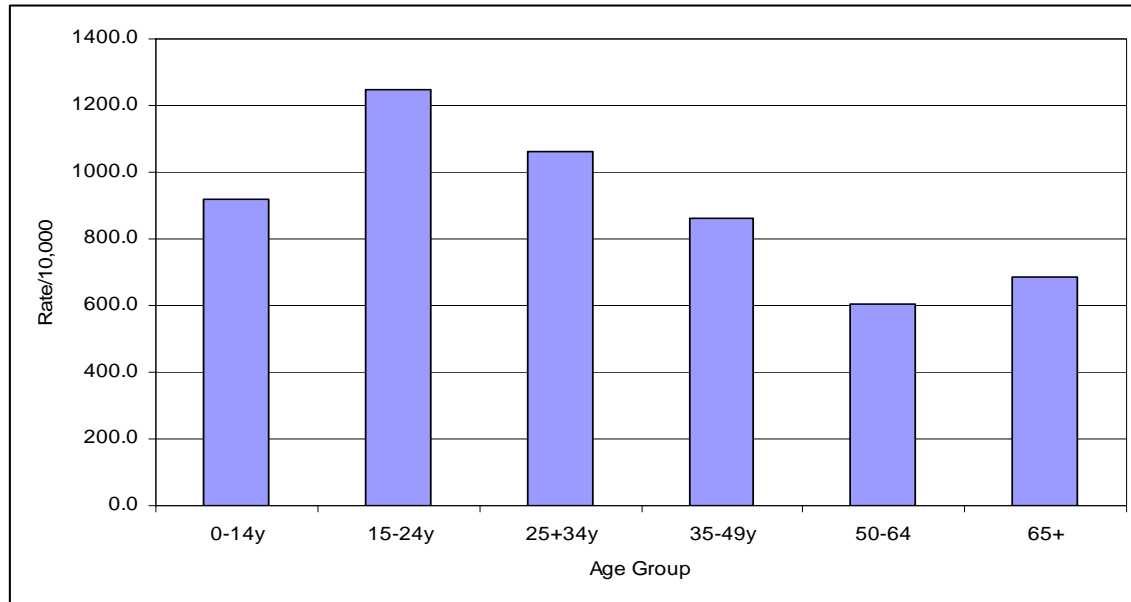


**Table 3.1: Causes of Injury ED Visits, SC 2005**

<b>Cause of Injury</b>	<b>Number</b>	<b>Percent</b>	<b>Rate</b>
<b>I. Unintentional</b>	<b>357,066</b>	<b>94.6</b>	<b>839.2</b>
Falls	84,228	22.3	197.9
Natural, Environmental Factors	58,844	15.6	138.3
MVC	55,424	14.7	130.3
Struck By/ Caught In/	42,955	11.4	100.9
Overexertion	35,654	9.4	83.8
Piercing/Cutting	29,150	7.7	68.5
Sports & Recreation	19,480	5.2	45.8
Foreign Body	7,614	2.0	17.9
Fire/Flame	6,249	1.7	14.7
Poisoning	4,141	1.1	9.7
Adverse Effects of Therapeutic Drugs	3,414	0.9	8.0
Motorcyclist	2,204	0.6	5.2
Other Transportation	1,967	0.5	4.6
Machinery	1,897	0.5	4.5
Pedestrian	1,570	0.4	3.7
Other Unintentional Injury	49281	13.1	115.8
Firearm and Airgun	880	0.2	2.1
Near Suffocation	248	0.1	0.6
Pedal Cyclist	113	0.0	0.3
Near Drowning	24	0.0	0.1
<b>II. All Intentional</b>	<b>20,292</b>	<b>5.4</b>	<b>47.7</b>
Assault	16,614	4.4	39.0
Attempted Suicide	3,175	0.8	7.5
Legal Intervention	503	0.1	1.2
<b>Total</b>	<b>377,376</b>	<b>100.0</b>	<b>886.9</b>

Percent of the total Injury ED visits  
Rate per 10,000 population

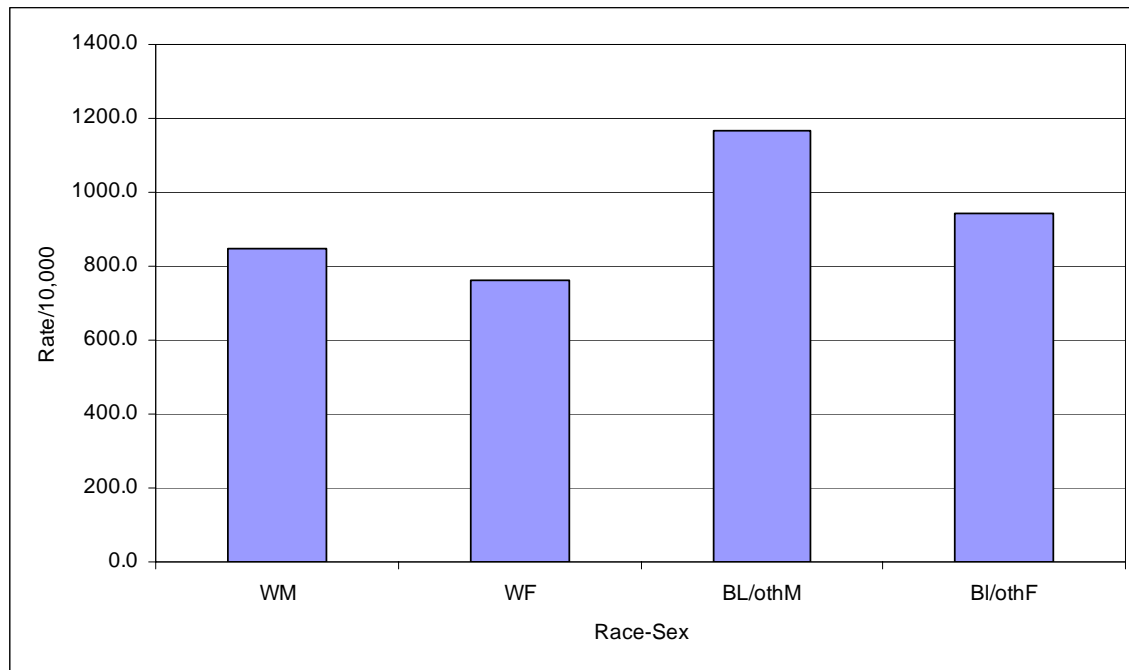
**Figure 3.1: Injury ED visits Rates by Age Group, SC 2005**



**Table 3.2: Top 5 Causes of Injury ED Visits by Age Group, SC 2005**

Age Group	Cause of Injury	No.	Rate	Age Group	Cause of Injury	No.	Rate
0-14	Falls	19,470	230.7	35-49	Falls	14,645	158.0
	Struck By/ Caught In	13,182	156.2		Natural, Environmental	13,971	150.7
	Natural, Environmental	10,738	127.2		MVC	12,907	139.3
	Sports & Recreation	9,834	116.5		Overexertion	9,599	103.6
	Piercing/Cutting	5,557	65.8		Struck By/ Caught In	8,216	88.6
15-24	MVC	16,640	273.2	50-64	Falls	13,025	170.6
	Natural, Environmental	9,914	162.8		Natural, Environmental	8,929	117.0
	Falls	8,773	144.0		MVC	6,730	88.2
	Struck By/ Caught In	8,533	140.1		Overexertion	4,233	55.4
	Overexertion	7924	130.1		Struck By/ Caught in	3,954	51.8
24-34	MVC	11,364	197.0	65+	Falls	19,682	367.9
	Natural, Environmental	9,436	163.6		Natural, Environmental	5,856	109.5
	Falls	8,633	149.7		MVC	2,934	54.8
	Overexertion	7,762	134.6		Struck By/ Caught In	2,227	41.6
	Struck By/ Caught In	6,843	118.6		Piercing/Cutting	1,831	34.2

**Figure 3.2: Injury ED Visits by Race and Sex, SC 2005**

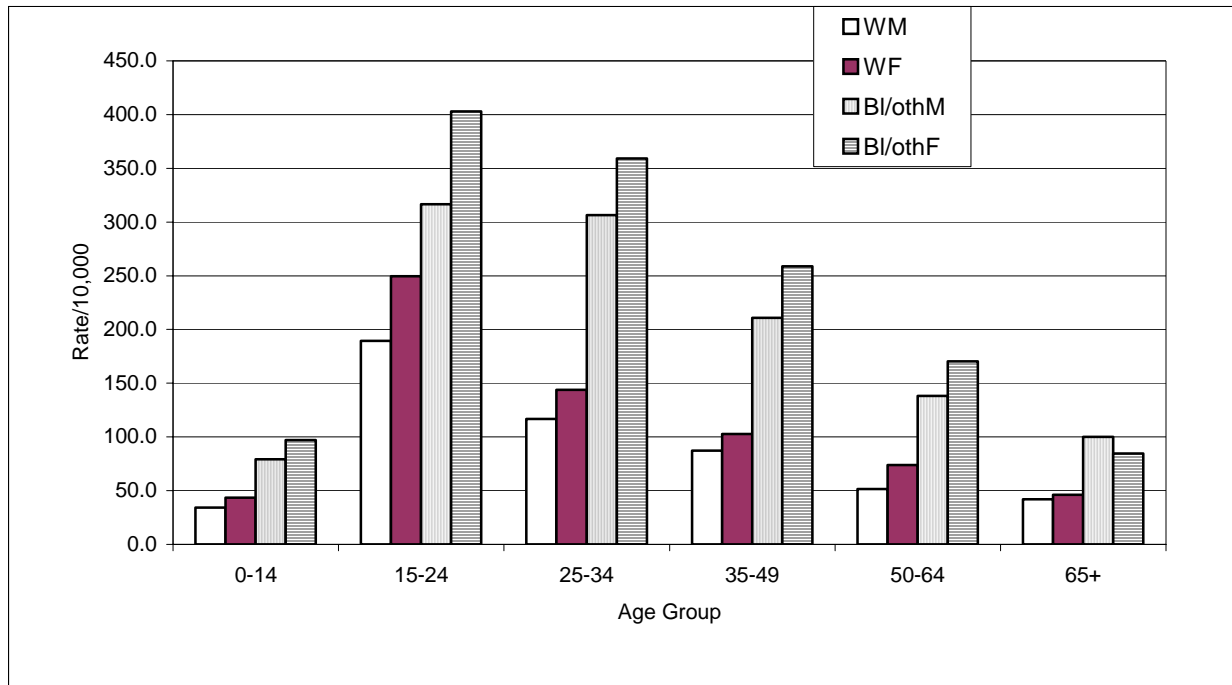


**Table 3.3: Top 5 Causes of Injury ED Visits by Race & Sex, SC 2005**

Race & Sex	Cause of Injury	No.	Rate	Race & Sex	Cause of Injury	No.	Rate
White Males	Falls	25,038	172.7	Black/ other Males	MVC	11,988	191.9
	Natural, Environmental	18,151	125.2		Natural, Environmental	11,091	177.5
	Struck By/ Caught In	16,392	113.1		Falls	10,804	172.9
	Piercing/Cutting	13,205	91.1		Struck By/ Caught In	8,902	142.5
	MVC	12,036	83.0		Overexertion	6,636	106.2
White Females	Falls	35,606	240.6	Black/ other Females	MVC	16,005	228.4
	Natural, Environmental	17,535	118.5		Falls	12,304	175.6
	MVC	14,949	101.0		Natural, Environmental	11,712	167.1
	Overexertion	11,335	76.6		Struck By/ Caught In	6,068	86.6
	Struck By/ Caught In	11,308	76.4		Overexertion	6,018	85.9

Rate per 10,000 population

**Figure 3.3: MVC-Related Ed Visits by Race, Sex & Age Group, SC 2005**



**Table 3.3: Falls-Related ED Visits by Race-Sex, SC 2005**

Sex-Race	Number	Rate
White M	25,038	172.7
White F	35,606	<b>240.6</b>
Black/other M	10,804	172.9
Black/other F	11,846	169.0

Rate per 10,000 population

**Table3.5: Nature of Injuries Due to Falls, SC 2005**

Nature of Injuries Resulted from Falls	Percent
Contusions with intact skin surfaces	28.6
Fractures	23.8
Sprains & Strains	19.4
Open wounds	15.7
Other injuries	8.7
Superficial injuries	2.4
Intracranial injury, exclude those with skull fracture	1.3

Percent of all falls

**Table 3.6: Source of Payments & Charges, ED Visits, SC 2005**

Paying Source	Percent
Insurance	41.9
Self Pay	25.4
Medicaid	17.9
Medicare	14.6
<b>Total Charges to all payers: \$686,225,045</b>	

Charges are the amount billed to paying sources & not the amount collected

## **2005 Traumatic Brain Injury Deaths**

In 2005, there were 1,068 deaths in South Carolina due to Traumatic Brain Injury (TBI). The crude death rate was 25.1 per 100,000 population.

Motor vehicle crashes (MVC) were the leading cause of TBI deaths (33.8%) followed by suicide and homicide (23.4, & 12.3% respectively) (Table 4.1). Suicide numbers were about double that of homicide (250 & 131 respectively).

Thirty seven percent of TBI were Intra-cranial injuries, 3.4% were skull/facial bone fractures, 17.9% were open wound of head, and about 42% were unspecified head injury (Figure 4.1).

People 65 years and older had the highest TBI death rate followed by age group 25-34 (39.4, & 33.1/100,000 respectively) (Figure 4.2). TBI death rate increased sharply at age group 15-24 (29.9/100,000), this may be contributed to the fact that young people start to drive at that age. Table 4.2 shows that MVC are the primary cause of TBI death from 0 to 49 years old. For age group 50-64, suicide was the primary cause of TBI death, while falls were the leading cause for people 65 years and older.

Black/other males had the highest TBI death rate followed by white males (41.6 & 37/100,000 respectively) (Figure 4.3). MVC were the primary cause of death for all race-sex groups except white males (Table 4.3). White males died from suicide in much higher rate than all the others (13.0/100,000). Homicide was the second cause of deaths for black/other (males & females).

Figure 4.4 shows that deaths from MVC were the highest among 25-34 years old black/other males followed by 15-24 years old white males (26.0 & 22.6/100,000 respectively). MVC-related deaths decreased with age among males (white & black/other) till age 65 and older where it increased sharply.

Around 70% of intentional causes of TBI deaths among black males were due to homicide (Figure 4.5), while among white males around 87% of these causes were due to suicide. Suicides among white males were one and half times that among white females and almost 3 times that among black/other males. Firearms were used in 66% of homicide-related deaths as the weapon of assault, and were used in 99% of the suicide cases.

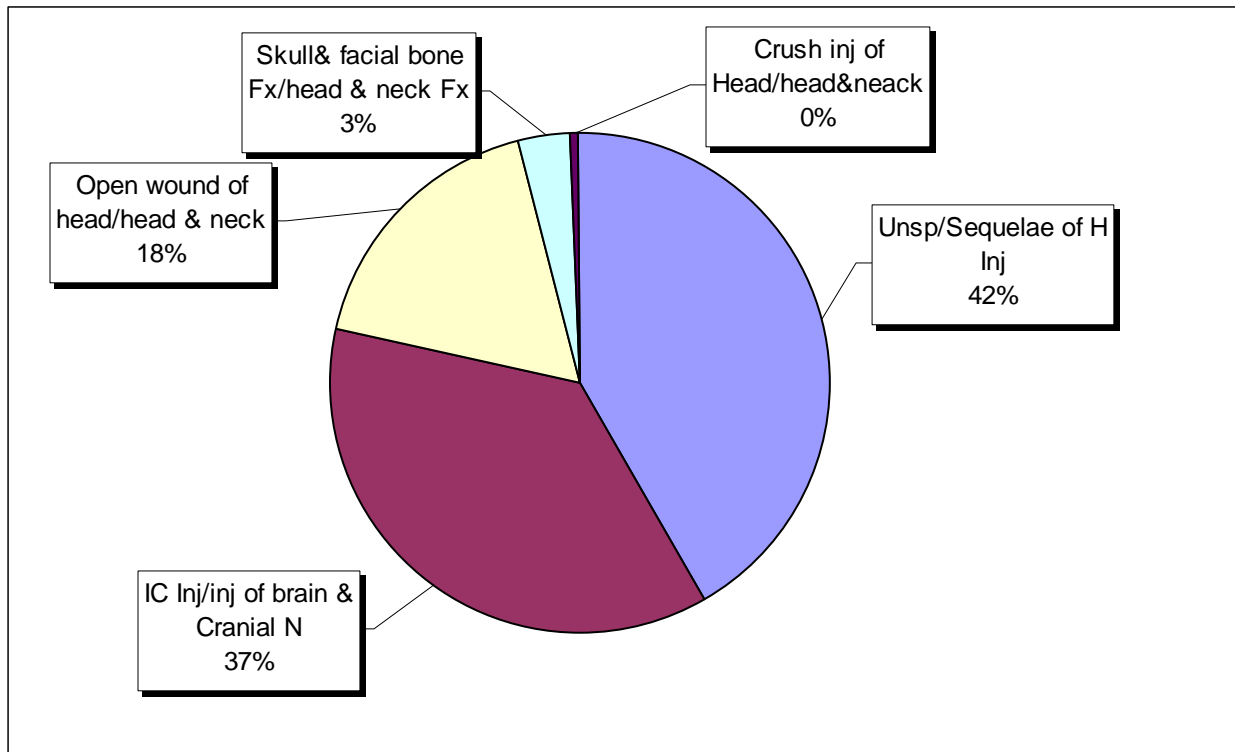
**Table 4.1: Causes of TBI Deaths, SC 2005**

<b>Cause of Injury</b>	<b>Number</b>	<b>Percent</b>	<b>Rate</b>
<b>I. Unintentional</b>	<b>675</b>	<b>63.2</b>	<b>15.9</b>
Traffic MVC	361	33.8	8.5
Fall	96	9.0	2.3
Pedestrians	53	5.0	1.2
Motor Cyclists	47	4.4	1.1
Unspecified	32	3.0	0.8
Firearm	22	2.1	0.5
Other Transport	21	2.0	0.5
Pedal Cyclists	12	1.1	0.3
Struck by/caught	10	0.9	0.2
Other Causes	9	0.8	0.2
Machinery	4	0.4	0.1
Poisoning	4	0.4	0.1
Drowning	3	0.3	0.1
Natural/Environmental	1	0.1	0.0
<b>II. All Intentional</b>	<b>381</b>	<b>35.7</b>	<b>9.0</b>
Suicide	250	23.4	5.9
Homicide	131	12.3	3.1
<b>III. Undetermined Intent</b>	<b>12</b>	<b>1.1</b>	<b>0.3</b>
<b>Total</b>	<b>1,068</b>	<b>100.0</b>	<b>25.1</b>

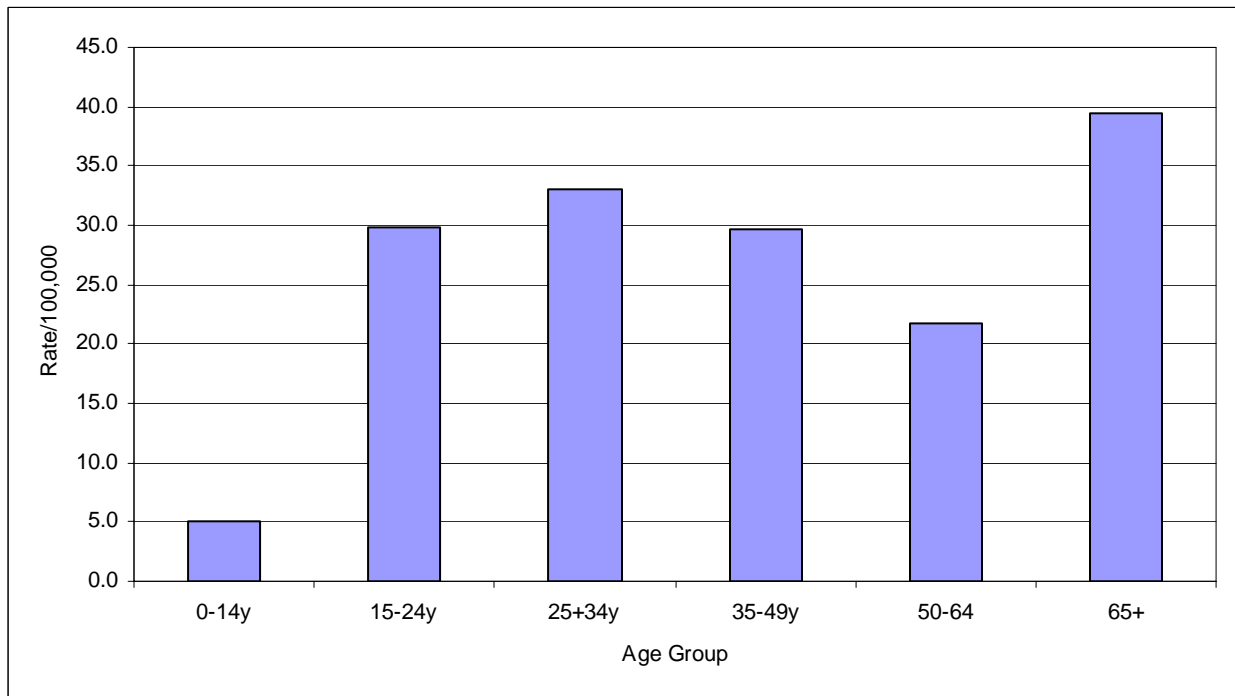
Percent of the total TBI Deaths

Rate per 100,000 population

**Figure 4.1: Types of TBI Deaths, SC 2005**



**Figure 4.2: TBI Death Rates by Age Groups, SC 2005**



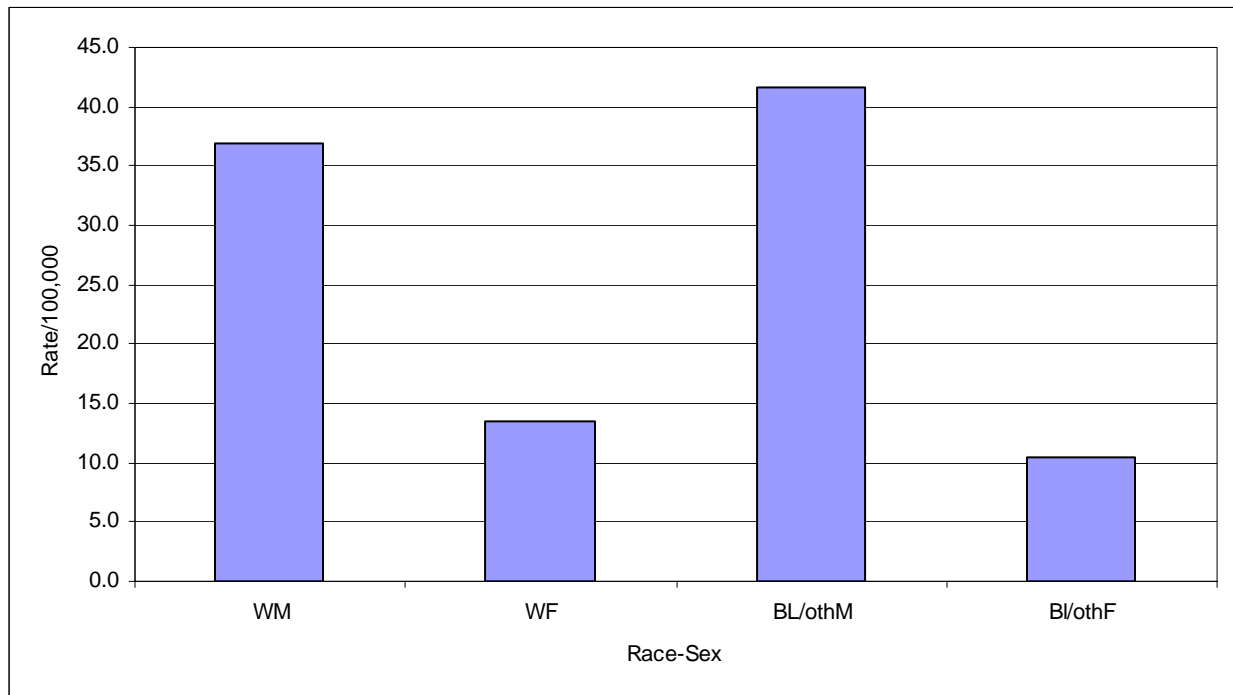


**Table 4.2: Top 3 Causes of TBI Deaths by Age Group, SC 2005**

Age Group	Cause of Injury	No.	Rate	Age Group	Cause of Injury	No.	Rate
0-14	MVC	23	2.7	35-49	MVC	82	8.8
	Homicide	6	0.7		Suicide	77	8.3
	Pedestrians	6	0.7		Homicide	45	4.9
15-24	MVC	99	16.3	50-64	Suicide	51	6.7
	Suicide	35	5.7		MVC	36	4.7
	Homicide	26	4.3		Homicide	17	2.2
24-34	MVC	74	12.8	65+	Fall	71	13.3
	Suicide	44	7.6		MVC	47	8.8
	Homicide	27	4.7		Suicide	41	7.7

Rate per 100,000 population

**Figure 4.3: TBI Death by Race and Sex, SC 2005**

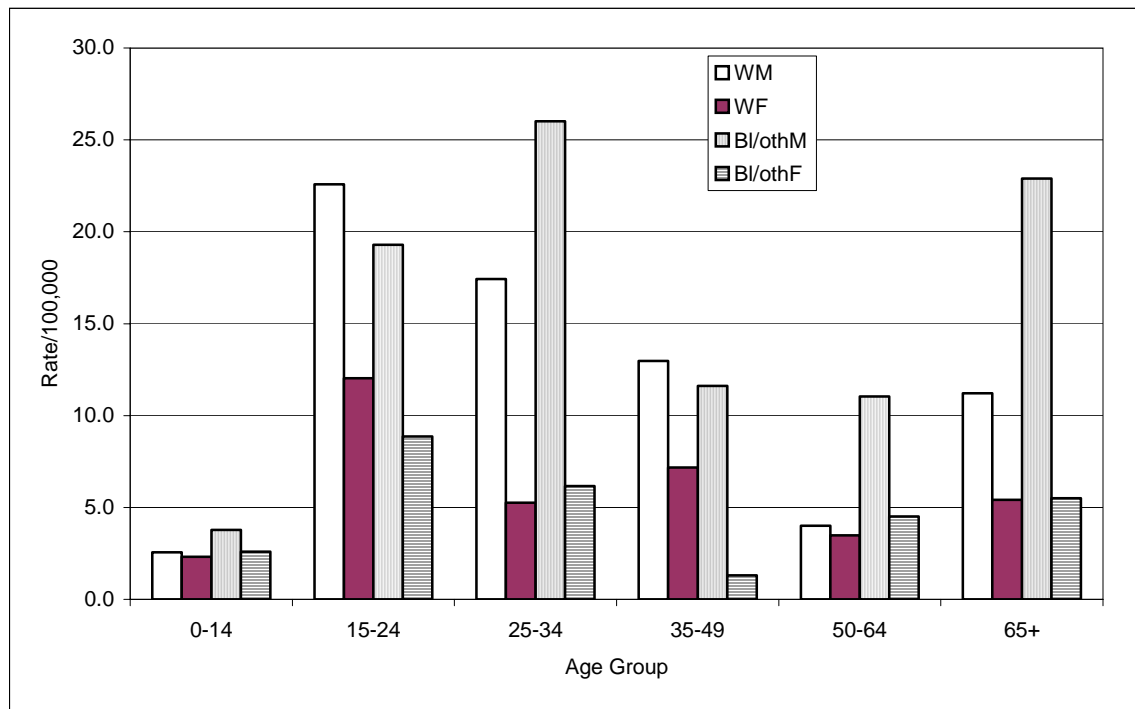


**Table 4.3: Top 5 Causes of TBI Deaths by Race & Sex, SC 2005**

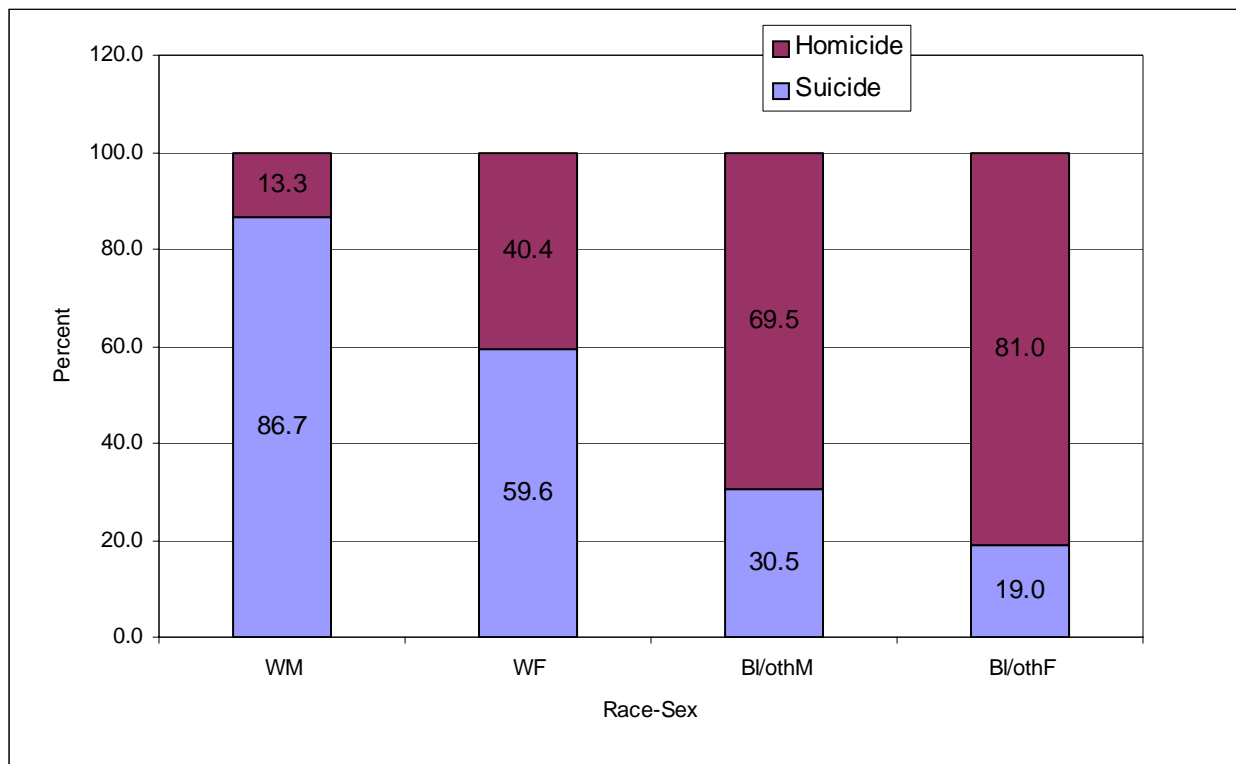
Race & Sex	Cause of Injury	No.	Rate	Race & Sex	Cause of Injury	No.	Rate
White Males	Suicide	189	13.0	Black/ other Males	MVC	86	13.8
	MVC	160	11.0		Homicide	66	10.6
	Fall	44	3.0		Suicide	29	4.6
	Motor Cyclists	31	2.1		Pedestrians	23	3.7
	Homicide	29	2.0		Fall	11	1.8
White Females	MVC	84	5.7	Black/ other Females	MVC	31	4.4
	Fall	35	2.4		Homicide	17	2.4
	Suicide	28	1.9		Fall	6	0.9
	Homicide	19	1.3		Pedestrians	6	0.9
	Unspecified	10	0.7		Suicide	4	0.6

Rate per 100,000 population

**Figure 4.4: TBI Deaths Due to MVC by Race, Sex & Age Group, SC 2005**



**Figure 4.5: TBI Deaths due to Intentional Injuries by Race and Sex, SC 2005 (N=381)**



## **2005 Traumatic Brain Injury Emergency Department (ED) Visits**

There were 13,214 emergency department (ED) visits in SC in year 2005, leading to a crude rate of 310.5 visits /100,000 population.

Falls were the leading cause of TBI ED visits (29.5%) followed by MVC (20.9%), (Table 5.1). Intentional injuries accounted for 11.3% of the causes of injury (mostly due to assault; attempted suicides were negligible).

About 60% of the ED visits were diagnosed as unspecified head injuries, 36.7% were intracranial (IC) injury and concussions, and 3.0% were skull fracture with or without IC Injury (Figure 5.1).

The majority of the TBI were classified as mild injuries (93.7%), while 5.2% of the visits were classified as severe (Figure 5.2). People 65 years and older had the highest percentage of severe TBI (8.1%), followed by people in age group 50-64 years (6.6%), (Figure 5.3).

Young people in the age of 15-24 years had the most visits to the ED due to TBI followed by children 0-14 years old (Figure 5.4). The ED visit rate among age group 25-34 was (307.4 visits/100,000); this rate declined as the age progressed till it increased again for people 65 years and older (318.5/100,000). Falls, were the leading cause of injury for age group 0-14 and people 50 years and older (Table 4.4). MVC were the leading cause of injury from age 15 to age 49.

TBI ED visits among black/other males were 1.3 times that among white males (Figure 5.5). TBI ED visits for white females were slightly higher than that for black/others females. Table 5.5 shows that the top 5 causes of injury were the same among all race-sex groups with falls being the leading cause except among black/other males where MVC were the leading cause. Regarding falls, it occurred, by far, much more frequent among white females than any other group.

MVC- related TBI /ED visits were the highest among people in the age range of 15-34 years and the peak was among young people 15-24 years old (Figure 5.6). Through medical records review information on protective equipments use was collected (seatbelt, child seat, air bag, helmet). Figure 5.7 shows that these equipments were used in 41% of MVC-related visits. Figure 5.8 shows that the use of protective equipments was the lowest among age group 35-49.

Figure 5.9 shows a U shaped like graph, which indicates that falls occurred the most in the early years of life (0-14 years) and in people 65 years and older. In age group 0-14, males (white & black/other) had more falls-related TBI than females (white & black/other), while this was the reverse for age 65 years and older. Almost 39% of the falls were unspecified in nature (Figure 5.10), 25% were falls on the same level, 24% were from one level to another, and 6% were from stairs or steps.

Through medical records review, the system collects information on injury in sports/recreation. Most of these cases are coded with ICD9-CM as falls or struck by in sports, which does not give information on the kind of activity during which the injury had occurred. Table 5.6 shows the different types of these activities.

The information about alcohol use was unknown in 83% of the reviewed medical records (Table 5.7). The blood alcohol level (BAL) was tested in 5.3% of the cases; out of these, BAL measured 100 mg/dl or higher in 3.6% and it was less than 100mg/dl in 1.7%. There were clinical or other evidences of alcohol use in 5.4% of the ED visits, and in 6.5% there were evidences of no alcohol consumption.

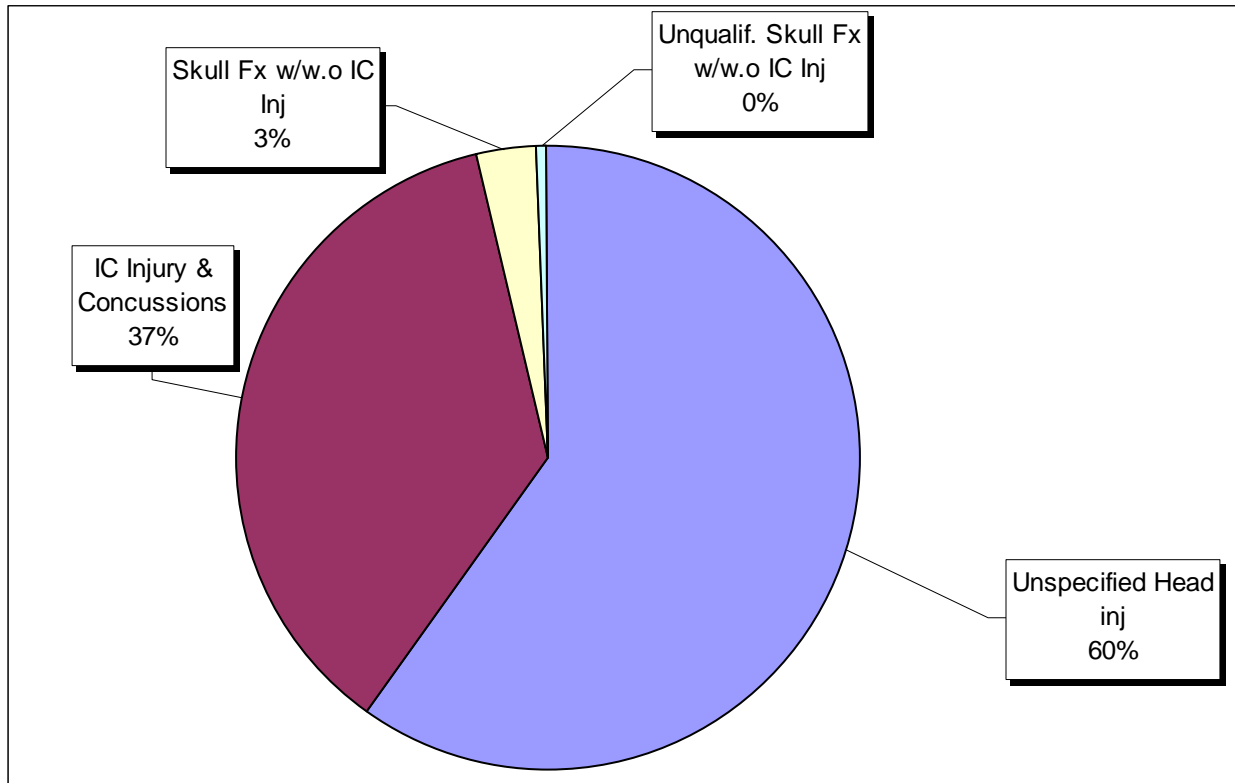
**Table 5.1: Causes of TBI ED Visits, SC 2005**

<b>Cause of Injury</b>	<b>Number</b>	<b>Percent</b>	<b>Rate</b>
<b>I. Unintentional</b>	<b>11,701</b>	<b>88.6</b>	<b>275.0</b>
Fall	3,899	29.5	91.6
MVC	2,762	20.9	64.9
Unknown Cause	1,810	13.7	42.5
Struck by/caught	1,538	11.6	36.1
Sports/Recreation	948	7.2	22.3
Unspecified	257	1.9	6.0
Motor Cyclists	176	1.3	4.1
Transport, other	112	0.9	2.6
Pedestrians	83	0.6	2.0
Cut/Pierce	29	0.2	0.7
Natural/environmental	26	0.2	0.6
Overexertion	22	0.2	0.5
Machinery	19	0.1	0.4
Pedal cyclists	6	0.1	0.1
Poisoning	5	0.0	0.1
Fire/Flame	4	0.0	0.1
Firearm	3	0.0	0.1
Near Drowning & hot Object	2	0.0	0.0
<b>II. All Intentional</b>	<b>1,491</b>	<b>11.3</b>	<b>35.0</b>
Assault	1,481	11.2	34.8
Attempted Suicide	10	0.1	0.2
<b>III. Undetermined Intent</b>	<b>22</b>	<b>0.2</b>	<b>0.5</b>
<b>Total</b>	<b>13,214</b>	<b>100.0</b>	<b>310.5</b>

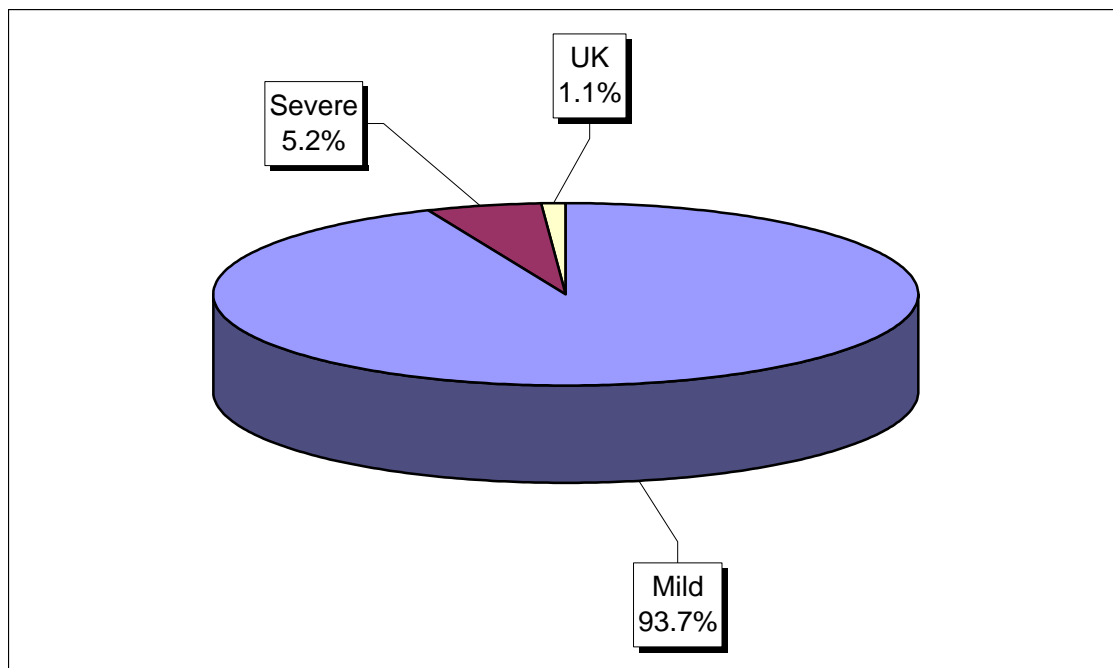
Percent of the total ED visits

Rate per 100,000 population

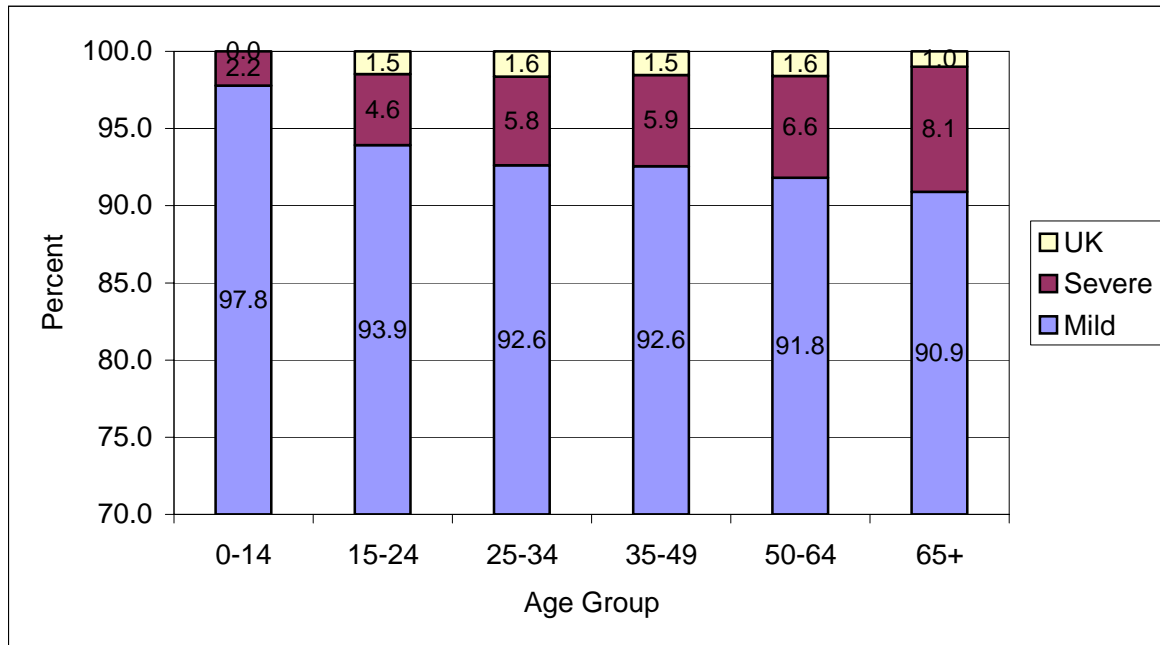
**Figure 5.1: Types of TBI in ED Visits, SC 2005**



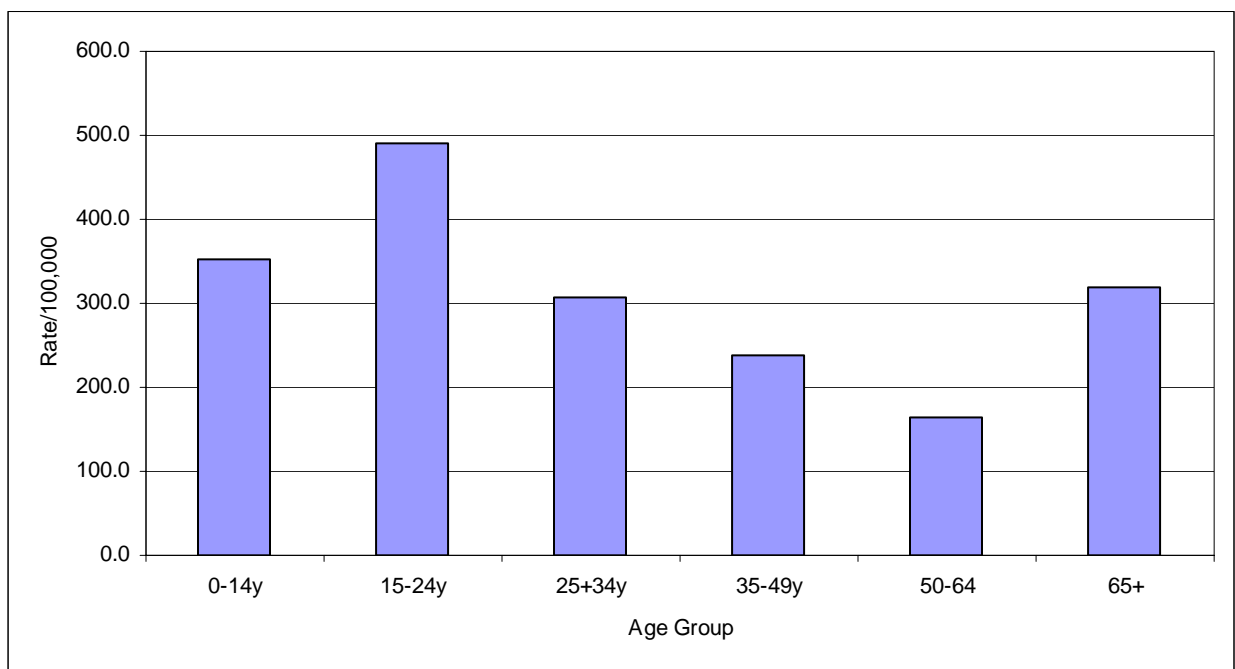
**Figure 5.2: TBI ED Visits by Severity, SC 2005**



**Figure 5.3: TBI/ED Severity by Age Group, SC 2005**



**Figure 5.4: TBI ED Visits Rates by Age Group, SC 2005**



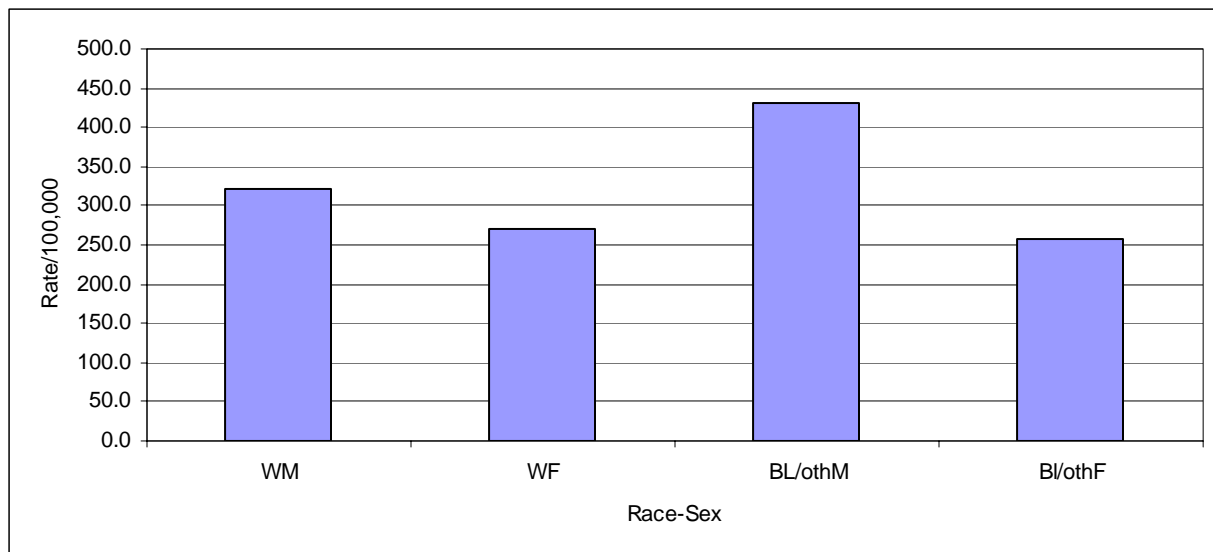


**Table 5.4: Top 5 Causes of TBI ED Visits by Age Group, SC 2005**

Age Group	Cause of Injury	No.	Rate	Age Group	Cause of Injury	No.	Rate
0-14	Fall	1,188	140.7	35-49	MVC	515	55.6
	Struck By/ Caught In	557	66.0		Assault	447	48.2
	Sports/Recreation	386	45.7		Fall	391	42.2
	MVC	243	28.8		Struck by/caught	257	27.7
	Assault	69	8.2		Sports/Recreation	101	10.9
15-24	MVC	1,012	166.2	50-64	Fall	450	58.9
	Assault	439	72.1		MVC	255	33.4
	Struck By/ Caught In	328	53.9		Struck by/caught	119	15.6
	Fall	325	53.4		Assault	110	14.4
	Sports/Recreation	307	50.4		Sports/Recreation	42	5.5
24-34	MVC	547	94.8	65+	Fall	1,222	228.4
	Assault	356	61.7		MVC	118	22.1
	Fall	239	41.4		Struck by/caught	53	9.9
	Struck by/caught	194	33.6		Assault	24	4.5
	Sports/Recreation	78	13.5		Unspecified	18	3.4

Rate per 100,000 population

**Figure 5.5: TBI ED Visits by Race and Sex, SC 2005**

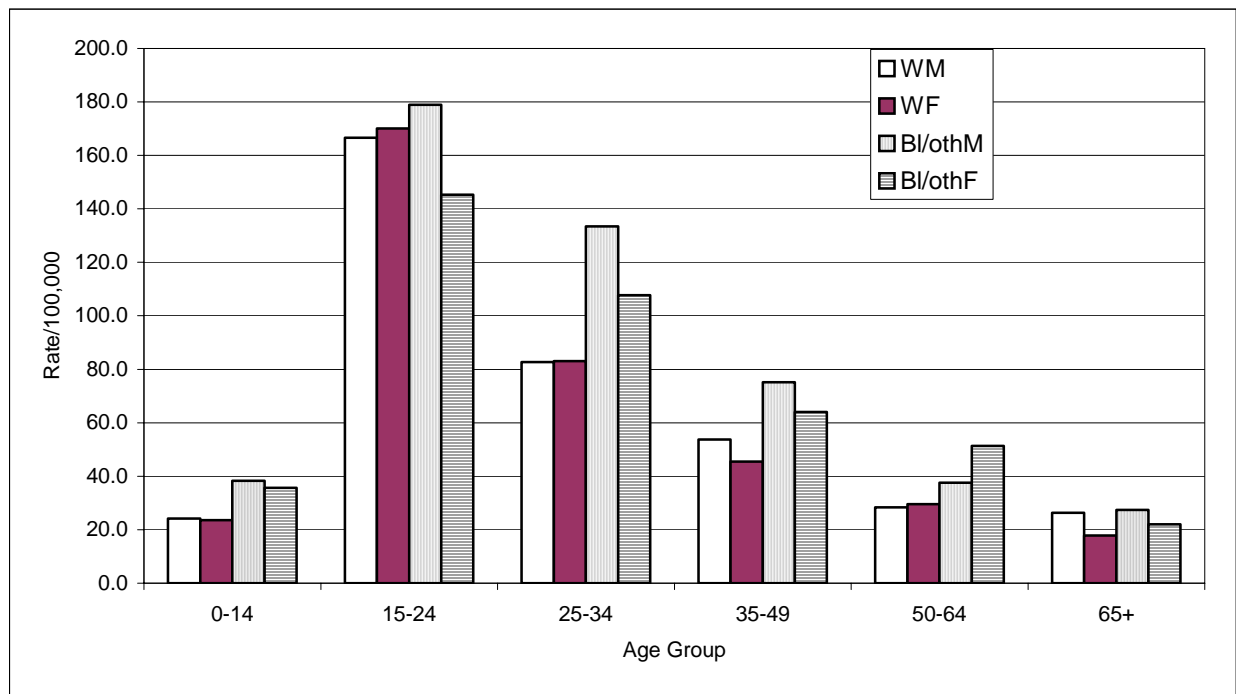


**Table 5.5: Top 5 Causes of TBI ED Visits by Race & Sex, SC 2005**

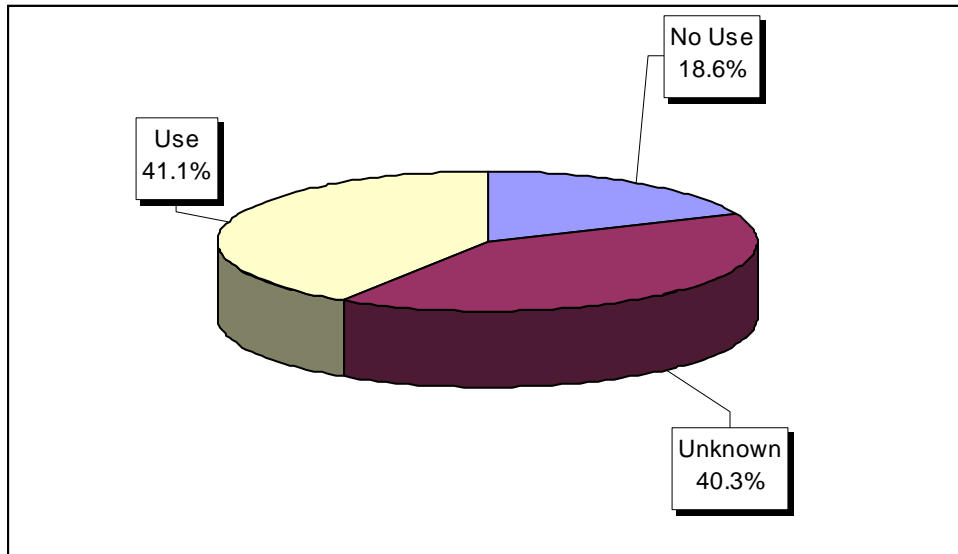
Race & Sex	Cause of Injury	No.	Rate	Race & Sex	Cause of Injury	No.	Rate
White Males	Fall	1,254	86.5	Black/ other Males	MVC	542	86.7
	MVC	889	61.3		Fall	539	86.3
	Struck By/ Caught In	561	38.7		Assault	509	81.5
	Assault	519	35.8		Struck by/caught	387	61.9
	Sports/Recreation	455	31.4		Sports/Recreation	222	35.5
White Females	Fall	1,610	108.8	Black/ other Females	MVC	506	72.2
	MVC	823	55.6		Fall	482	68.8
	Struck By/ Caught In	390	26.4		Assault	211	30.1
	Assault	241	16.3		Struck by/caught	192	27.4
	Sports/Recreation	218	14.7		Sports/Recreation	51	7.3

Rate per 100,000 population

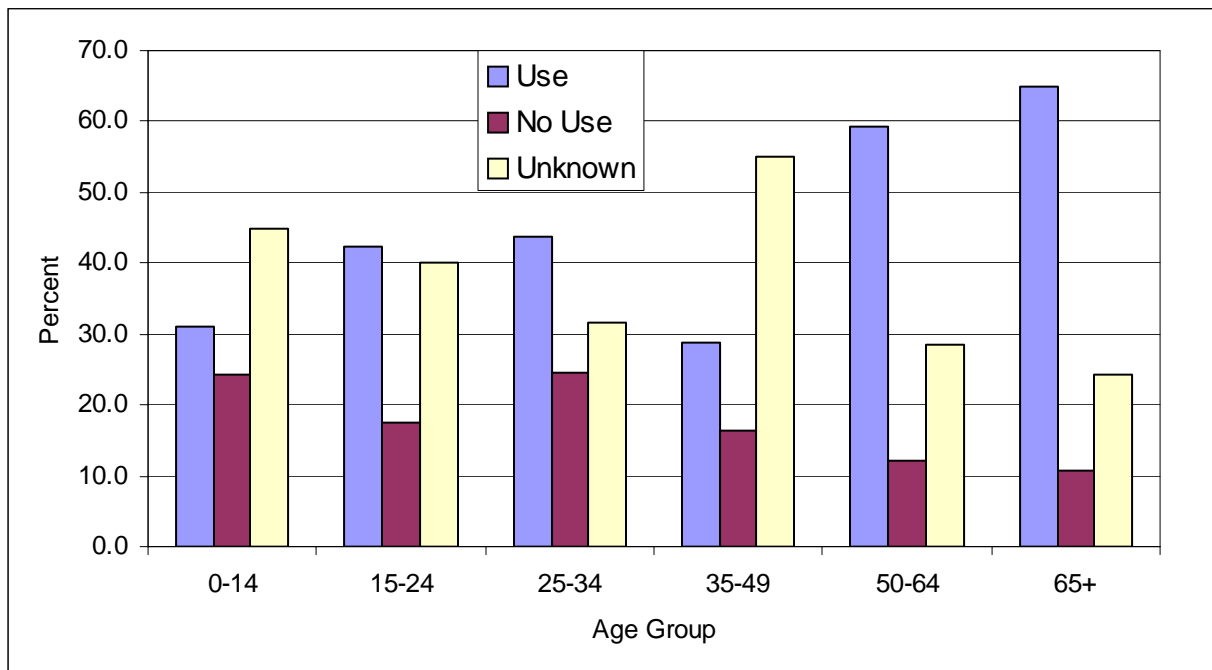
**Figure 5.6: TBI ED Visits Due to MVC by Race, Sex and Age Group, SC 2005**



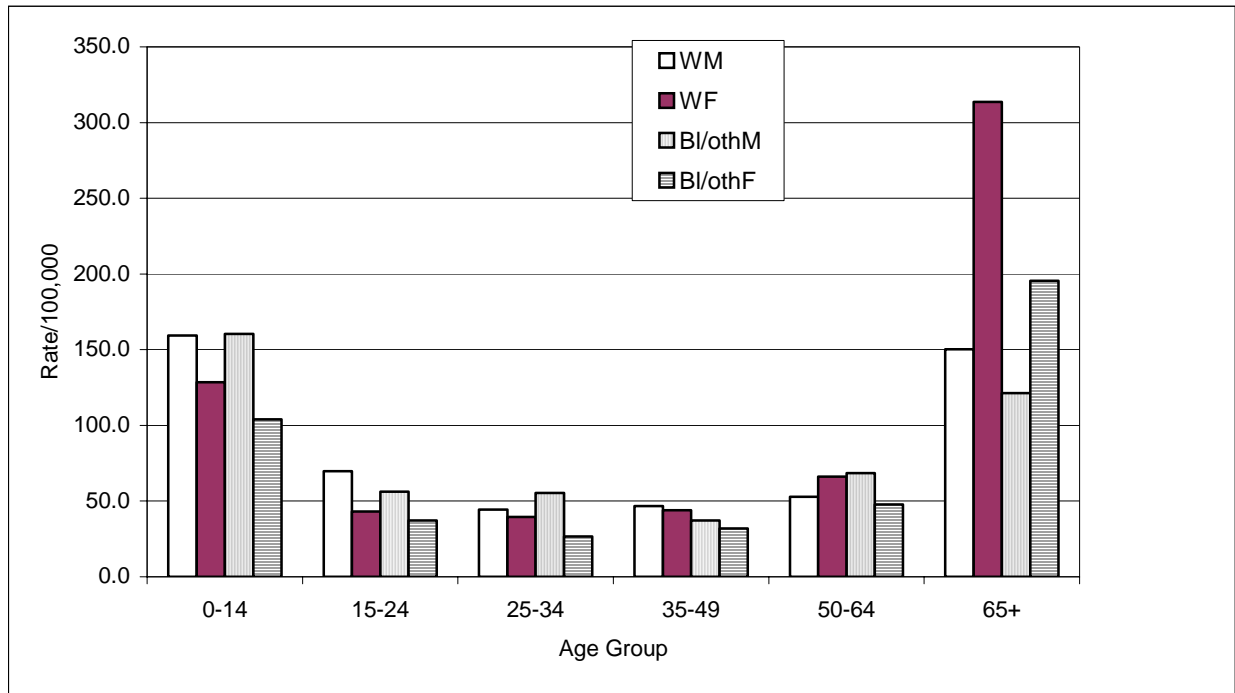
**Figure 5.7 Protective Equipment Use in MVC-Related TBI ED visits, SC 2005**



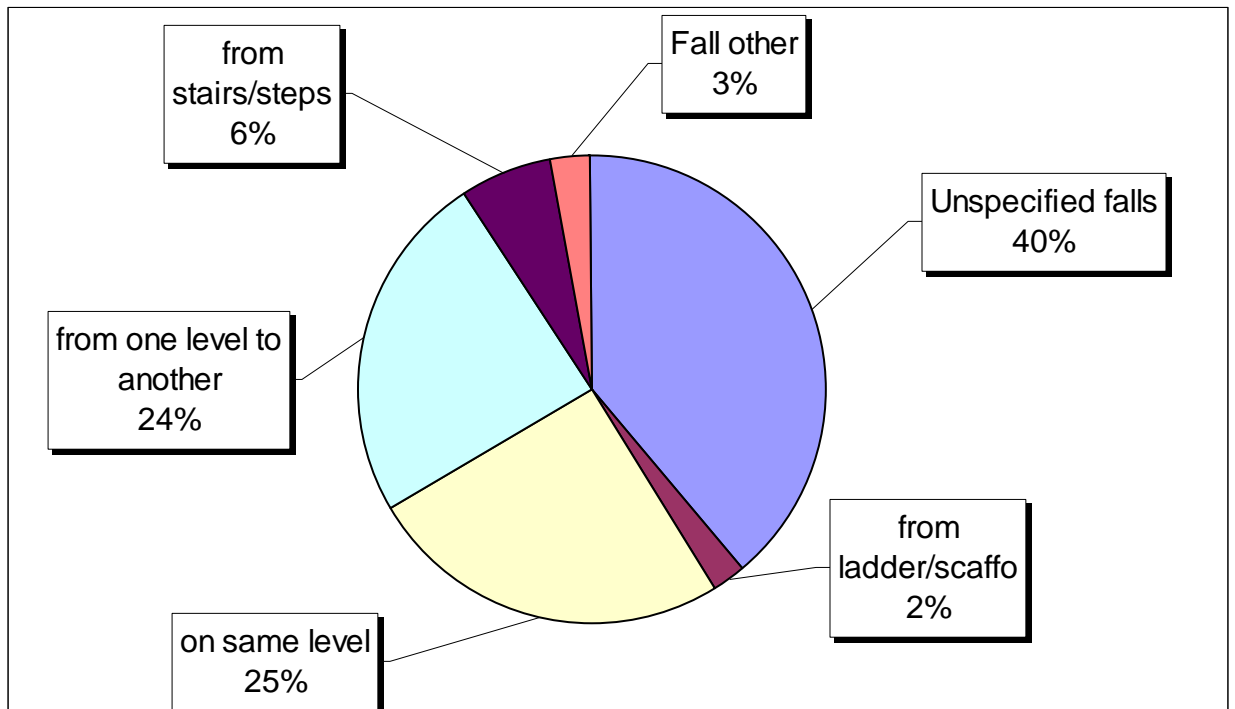
**Figure 5.8: Protective Equipment Use in MVC TBI Ed Visits by Age group, SC 2005**



**Figure 5.9: TBI ED Visits Due to Falls by Race, Sex & Age Group, SC 2005**



**Figure 5.10: Types of Falls, TBI ED Visits, SC 2005**



**Table 5.6: Sports-Related TBI ED Visits, SC 2005 (N=106)**

Sport	%	Sport	%
Football	25.5	Running-Leisure	1.9
Basketball	18.9	Trampoline	1.9
Equestrian	13.2	Cheerleading	0.9
Baseball	9.4	Cycling	0.9
Soccer	6.6	Golf	0.9
Skate board	4.7	Gymnastic	0.9
Ski-Water	2.8	Skating-Roller	0.9
Sports-Other	2.8	Softball	0.9
Wrestling	2.8	Swimming	0.9
Play with ball	1.9	Tennis	0.9

Percent of all Sports-related TBI?ED

**Table 5.7: Alcohol Use, TBI ED Visits SC 2005 (N=2,101)**

Alcohol Use	Percent
Unknown	82.9
Clinical /other Evidence No Use	6.5
Clinical/other Evidence Use	5.4
BAL >100md/dl	3.6
BAL<100md/dl	1.7

**Table 5.8: Source of Payments & Charges, TBI ED Visits, SC 2005 (N=13,214)**

Paying Source	Percent
Insurance	41.0
Self pay/Indigent care	26.8
Medicaid	19.3
Medicare	12.8
Other	0.1
<b>Total Charges to all payers: \$23,377,346</b>	

- Charges are the amount billed to paying sources & not the amount collected
- Charges based on Injury as a primary diagnoses